ORing

SWITCH INDUSTRIAL

Quick Installation Guide

IES-3000-LA Series

Industrial Managed Ethernet Switch

Introduction

IES-3000-LA Series are managed redundant ring Ethernet switch which is specifically designed for the toughest. **IES-3000-LA Series** support wide operating temperature from -40° C to 75° C which can fulfill most of the requirement of operation environment. Therefore, the **IES-3000-LA Series** switch is one of the most reliable choices for highly-managed Ethernet application.

Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

| Contents	Pictures	Number
Switch		X 1
CD Card		X 1
Console Cable		X 1
QIG		X 1

Preparation

Before you begin installing the switch, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

● Safety & Warnings

Elevated Operating Ambient: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

● Dimension   Unit =mm (Tolerance ±0.5mm)
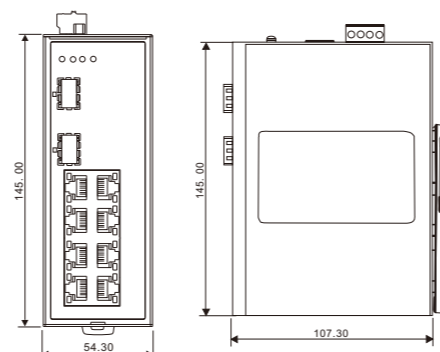
IES-3082GP-LA
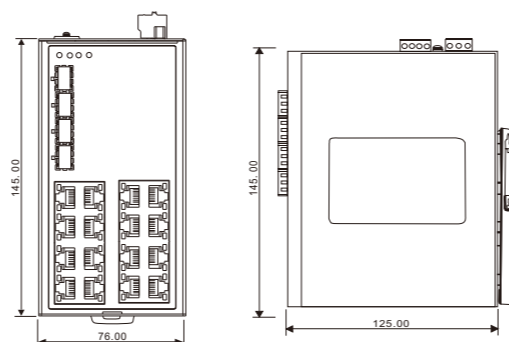
IES-3164GP-LA

Warning [AVERTISSEMENT]
Take into consideration the following guidelines before wiring the device.
[Tenez compte des directrices suivantes avant de câbler l'appareil.]
1. Terminal block is mating with Plug and suitable for 12-24AWG. Torque value 4.5 lb-in.
[Le bornier est compatible avec les connecteurs et convient pour 12-24AWG. Valeur de couple 4,5 lb-in.]
2. The temperature rating of the input connection cable should higher than 105°C
[La température de service nominale du câble d'entrée doit être supérieure à 105 °C]
3. Use Copper Conductors Only.
[Utilisez uniquement des conducteurs en cuivre.]
* Indoor use and pollution degree II, it must be wiped with a dry cloth for clean up the device and label.
* Utilisation en intérieur et degré de pollution II, il faut l'essuyer avec un chiffon sec pour nettoyer l'appareil et son étiquette.
* Do not block air ventilation holes.
* Ne bouchez pas les orifices de ventilation.
* If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired."
* Si l'appareil est utilise d'une maniere non specifiee par le fabricant, la protection qu'il apporte peut se voir diminuee.
* Shall be mounted in the Industrial Control Panel and ambient temperature is not exceed 75 degree C
* doit être monté dans le panneau de commande industriel et la température ambiante ne doit pas dépasser 75 degrés C.

Installation

● DIN-rail Installation

STEP 1—Insert the upper lip of the DIN-rail kit into the mounting rail.
STEP2—Press the Switch towards the mounting rail until it snaps into place.

Step1
DIN rail
Step2
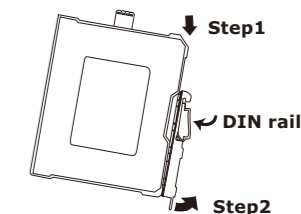
● DIN-rail Removal

STEP 1—Pull down the latch on the DIN-rail kit with a screwdriver.
STEP2 —Slightly pull the switch forward and lift up to remove it from the mounting rail.

DIN rail
Step2
Step1
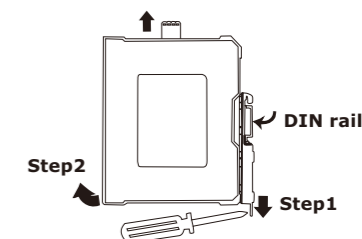
Network Connection

● The switch provides standard Ethernet ports. According to the link type, the switch uses CAT 3,4,5,5e UTP cables to connect to any other network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications:

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

For pin assignments for different types of cables, please refer to the following tables.

10/100 Base-T(X) RJ-45 Port	
Pin Number	Assignments
1	TD+
2	TD-
3	RD+
4	Not used
5	Not used
6	RD-
7	Not used
8	Not used

10/100 Base-T(X) MDI/MDI-X		
Pin Number	MDI port	MDI-X port
1	TD+(transmit)	RD+(receive)
2	TD-(transmit)	RD-(receive)
3	RD+(receive)	TD+(transmit)
4	Not used	Not used
5	Not used	Not used
6	RD-(receive)	TD-(transmit)
7	Not used	Not used
8	Not used	Not used

**Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.**

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Console Port Pin Definition

To connect the console port to an external management device, you need an RJ-45 to DB-9 cable, which is also supplied in the package. Below is the console port pin assignment information.

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Console
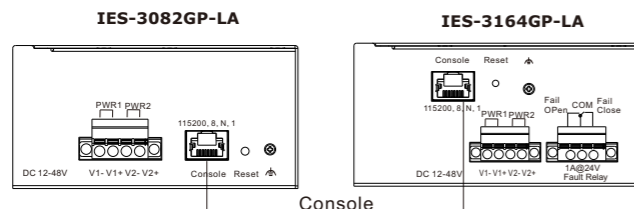
PC (male) pin assignment	RS-232 with DB9 (female) pin assignment (RJ45-DB9 cable)	RJ45 pin assignment
PIN#2 RxD	PIN#2 RxD	PIN#3 RxD
PIN#3 TxD	PIN#3 TxD	PIN#6 TxD
PIN#5 GND	PIN#5 GND	PIN#5 GND

● Wiring

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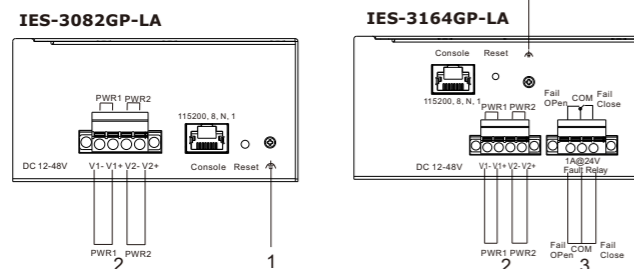
1. Ground wire
2. Terminal blocks: PWR1, PWR2
3. Terminal blocks: Relay

Power inputs

The switch supports dual redundant power supplies, Power Supply1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1, PWR2 are located on the terminal block.
STEP 1: Insert the negative/positive wires into the V-/V+ terminals, respectively.
STEP 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

Relay contact

The three sets of relay contacts of the 3-pin terminal block connector are used to detect user-configured events. The " Fail Open" circuit will open and the "Fail Off" circuit will close when a user-configured event is triggered.

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screws to the grounding surface prior to connecting devices.

Configurations

After installing the switch, the green power LED should turn on. Please refer to the following tablet for LED indication.

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1. PWR1
2. PWR2
3. R.M
4. RING
5. L/A
6. SPD

IES-3164GP-LA
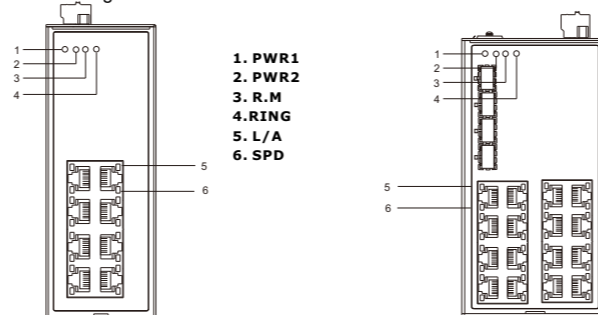
LED	Color	Status	Description
PWR1	Green	On	DC power module 1 activated
PWR2	Green	On	DC power module 2 activated
Ring	Green	On	Ring work normal
		Blinking	Ring structure is broken (i.e. part of the ring is disconnected)
R.M	Green	On	This switch is Ring Master
L/A	Green	On	Port link up
		Blinking	Data transmitted
SPD	Green	On	100Mbps
		Off	10Mbps

Follow the steps to set up the switch:
1. Launch the Internet Explorer and type in IP address of the switch. The default static IP address is **192.168.10.1**

2. Log in with default user name and password (both are **admin**). After logging in, you should see the following screen. For more information on configurations, please refer to the user manual.

Resetting

● To reboot the switch, press the **Reset** button for 2-3 seconds.

To restore the switch configurations back to the factory defaults, press the **Reset** button for 5 seconds.

Contact for maintenance and repair service:

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Specifications

ORing Switch Model	IES-3082GP-LA	IES-3164GP-LA
Physical Ports		
10/100Base-T(X) Ports Auto MDI/MDIX	8	16
100/1000Base-X, SFP socket	2	4
Technology		
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)	
MAC Table	8k	
Priority Queues	4	
Processing	Store-and-Forward	
Switch Properties	Switching latency: 10us Switching bandwidth: 5.6Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 128 for each VLAN port rate limiting: User Define	Switching latency: 10us Switching bandwidth: 11.2Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 128 for each VLAN port rate limiting: User Define
Jumbo frame	Up to 9.6K Bytes	
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network security	
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging IGMP Snooping IP-Based bandwidth management Application-based QoS management Port configuration status, statistics, monitoring, security DHCP Server/Client/Relay SMTP Client	
Network Redundancy	O-Ring,O-Chain, MSTP (STP/RSTP compatible)	
Power		
Power Input	Dual 12-48VDC on 4-pin terminal block	
Power Consumption (Typ.)	<10W	
Overload Current Protection	Present	
Reverse Polarity Protection	Present	
Physical Characteristic		
Enclosure	IP30	
Dimension (W x D x H)	54.3(W) x 107.3(D) x 145.0(H)mm (2.13x 4.22 x 5.71inches)	76(W) x 125(D) x 145(H)mm (2.99x 4.92 x 5.71inches)
Environmental		
Storage Temperature	-40 to 85°C	
Operating Temperature	-40 to 75°C	
Operating Humidity	5% to 95% Non-condensing	
Regulatory Approvals		
EMI	FCC Part 15, CISPR (EN55032) class A	
EMS	EN61000-4-2 (ESD) EN61000-4-3 (RS) EN61000-4-4 (EFT) EN61000-4-5 (Surge) EN61000-4-6 (CS) EN61000-4-8 EN61000-4-11	
Shock	IEC60068-2-27	
Free Fall	IEC60068-2-31	
Vibration	IEC60068-2-6	
Safety	EN62368-1	
Warranty	5 years	

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